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FEDERAL-STATE-PRIVATE
COOPERATIVE SNOW SURVEYS

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PROCUREMENT SECTION
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WATER SUPPLY OUTLOOK FOR OREGON

Prepared by

U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with

OREGON STATE UNIVERSITY

and

STATE ENGINEER of OREGON

Data included in this report were obtained by the agencies named above
in cooperation with other Federal, State and private organizations.

AS OF
APR. 1, 1971

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters of key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

PUBLISHED BY SOIL CONSERVATION SERVICE

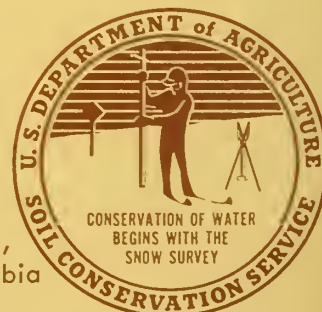
The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 209, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	P. O. Box "F", Palmer, Alaska 99645
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	12417 Federal Building, Denver, Colorado 80202
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 970, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84111
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



WATER SUPPLY OUTLOOK FOR OREGON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued

APRIL 8, 1971

KENNETH E. GRANT
ADMINISTRATOR
SOIL CONSERVATION SERVICE
WASHINGTON, D.C.

|||||

Released by
A. J. WEBBER
STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
PORTLAND, OREGON

In Cooperation with

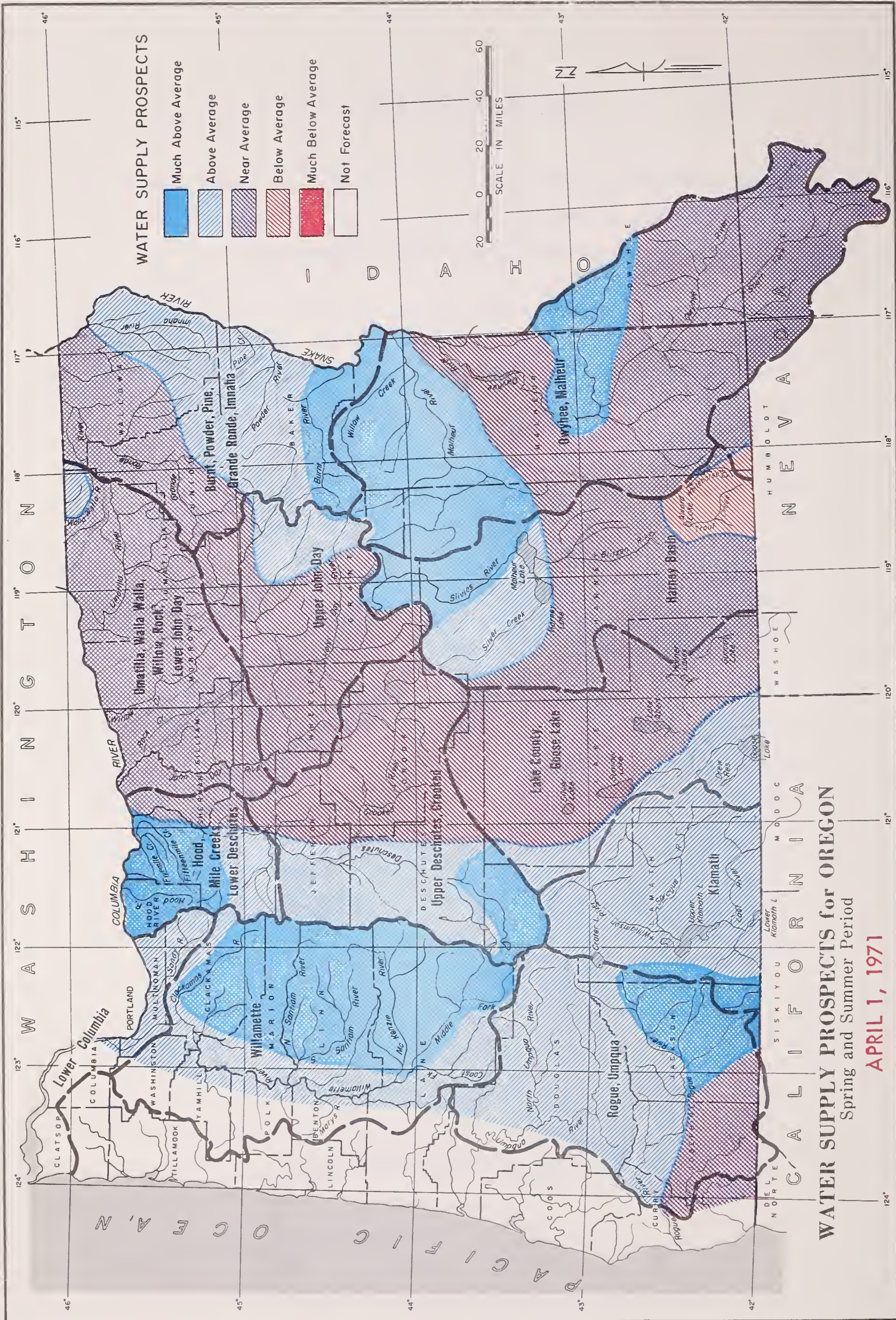
G. BURTON WOOD	CHRIS L. WHEELER
DIRECTOR	STATE ENGINEER
OREGON AGRICULTURAL	STATE OF OREGON
EXPERIMENT STATION	

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Report prepared by

TOMMY A. GEORGE, Snow Survey Supervisor
and
HOWARD M. VANCE, Assistant Snow Survey Supervisor

SOIL CONSERVATION SERVICE
1218 S W WASHINGTON ST.
PORTLAND, OREGON 97205



WATER SUPPLY OUTLOOK for OREGON

APRIL 1, 1971

The Oregon water supply outlook is excellent for most water users this spring and summer. The mountain snowpack increased more than normal amounts in March and is generally now average to much above average. Reservoir storage is the best since the winter floods of 1964 and 1965. Streams will produce good amounts of water with probable high sustained volumes in Western Oregon during the snowmelt period.

SNOW COVER

Oregon's snowpack increased considerably during March. A continual series of cold storms dumped 1 1/2 to 2 times the normal amounts of snow in the mountains with the Cascades receiving the highest amounts. The snow cover varies from 115% on the Umatilla to 160% of normal in the Cascade Range. Some of the high desert area of Southeastern Oregon lacks normal snow cover for this time of year.

PRECIPITATION

Rainfall during the past month was very good with all areas of the state receiving more than average amounts. The variation was from a low of 105% on the John Day watershed up to 200% in Lake and Harney counties.

RESERVOIR STORAGE

Most of the reservoirs in the state have nearly filled. A few exceptions are Crescent Lake, McKay, Wallowa Lake, and the principal flood control reservoirs on the Willamette which have been lowered to contain the high snowmelt volumes expected during the next 3 months. Twenty-six reservoirs are storing amounts 130% of normal for April 1.

SOIL MOISTURE

Mountain watershed soils are wetter than usual and will enhance the snowmelt runoff.

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STREAMFLOW

Representative April-July volume forecasts on some principal streams are as follows:

<u>STREAM</u>	<u>FORECAST</u> <u>As % of 1953-67 Average</u>
Owyhee Reservoir net Inflow	128
Malheur near Drewsey	158
Grande Ronde near La Grande	98
Umatilla near Pendleton	100
Willamette, Mid. Fk. near Oakridge	130
Rogue at Raygold	118
Silvies near Burns	132
Columbia at The Dalles	120

This report contains data furnished by Oregon State Engineer, U. S. Geological Survey, NOAA National Weather Service, and other cooperators.



WATER SUPPLY OUTLOOK OWYHEE, MALHEUR WATERSHEDS

OREGON

as of

APRIL 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

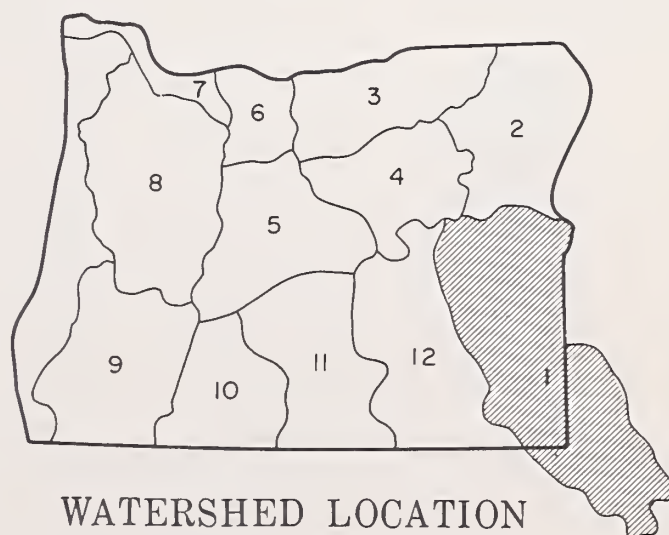
GENERAL OUTLOOK

WATER SUPPLIES WILL BE MOSTLY EXCELLENT THIS SPRING AND SUMMER. MUCH ABOVE AVERAGE PRECIPITATION HAS BEEN RECEIVED THIS WINTER. RAINFALL DURING MARCH WAS 165 PERCENT. SOILS ARE WET AND GOOD RESPONSE WILL BE SEEN FROM FUTURE RAINFALL. THE SNOWPACK IS ABOVE AVERAGE IN THE OREGON AND IDAHO PORTIONS OF THE OWYHEE AND BELOW NORMAL IN NEVADA. THE MALHEUR SNOW COVER IS ABOUT ONE AND ONE-HALF TIMES THE AVERAGE. RESERVOIRS ARE FULL OR NEARLY FULL.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Boulder Creek	Excellent	Average
Bully Creek	Excellent	Average
Cow Creek	Excellent	Average
Jordan Creek	Excellent	Average
Jordan Valley Irrig. Dist.	Excellent	Excellent
McDermitt Creek	Average	Fair
Oregon Canyon Creek	Average	Fair
Owyhee Project	Excellent	Excellent
Succor Creek	Excellent	Average
Tenmile Creek	Average	Average
Vale-Oregon Irrig. Dist.	Excellent	Excellent
Warm Springs Irrig. Dist.	Excellent	Excellent
Willow Creek (Reservoired)	Excellent	Excellent



WATERSHED LOCATION

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Bully Creek at Warm Springs	17.5	154	March-May	^b	11.4
Jordan Creek above Lone Tree Creek	125	147	April-July		85 ^m
Malheur near Drewsey	113	159	April-July		71
	114	158	April-Sept.		72
Malheur, North Fork at Beulah	73	133	April-July		55
	78	130	April-Sept.		60
Owyhee Reservoir, net Inflow	360	128	April-July	283	281
	380	127	April-Sept.	306	300

FORECAST DATE OF LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Owyhee near Rome	1000	May 25	May 24
	250	June 28	June 20

RESERVOIR STORAGE (Thousand Ac. Ft.)

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ⁱ
Agency Valley	60.0	57.6	55.1	41.5
Antelope	70.0	60.0	39.8	19.1
Bully Creek	30.0	28.9	27.3	17.4
Owyhee	715.0	698.5	698.3	476.8
Warm Spring	191.0	163.0	168.6	117.3

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m
Jordan Creek	—	—	—
Malheur River	3	109	107
Owyhee River	6	—	92

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
Jordan Creek	1	115	135
Malheur River	5	105	140
Owyhee River	5	80	85

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (l) Ground measurement. (m) Average for 5 or more years in base period.

WATER SUPPLY OUTLOOK BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS OREGON

as of

APRIL 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE

OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER



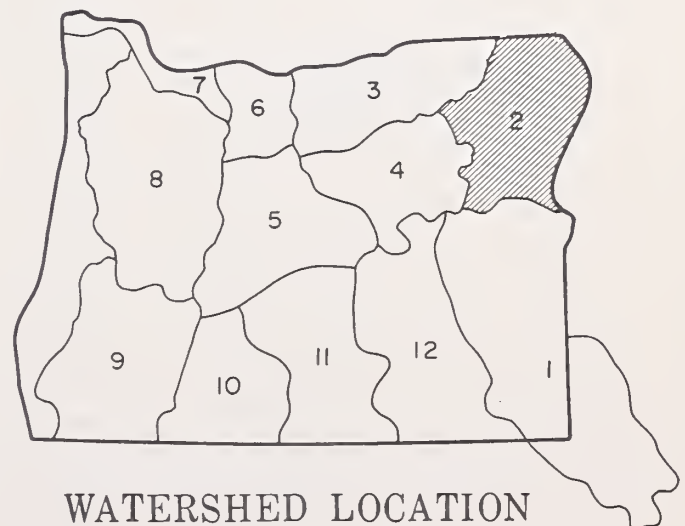
GENERAL OUTLOOK

WATER SUPPLIES WILL BE EXCELLENT ON STREAMS HEADING ON THE WALLOWAS AND MOSTLY AVERAGE ELSEWHERE. PRECIPITATION FOR THE NOVEMBER-MARCH WINTER PERIOD HAS BEEN 113 PERCENT OF NORMAL. THE SNOWPACK ON THE GRANDE RONDE IS BELOW AVERAGE, HAVING MELTED AND RUN OFF SOME IN JANUARY. THE SNOW COVER IN THE WALLOWAS IS ONE AND A HALF TIMES NORMAL. SOIL MOISTURE ON THE MOUNTAIN WATERSHEDS IS GOOD. STORED WATER SUPPLIES ARE EXCELLENT WITH MOST RESERVOIRS NEARLY FULL.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Alder Slope	Excellent	Excellent
Baker Valley	Excellent	Excellent
Big Creek	Excellent	Average
Clover Cr. (nr. N. Powder)	Excellent	Average
Cove	Excellent	Average
Durkee	Excellent	Average
Eagle Valley	Excellent	Average
Elgin	Average	Average
Enterprise-Joseph	Excellent	Excellent
Hereford-Bridgeport	Excellent	Excellent
Imnaha River	Excellent	Average
La Grande-Island City	Average	Average
Lostine-Wallowa	Excellent	Average
No. Powder River-Wolf Creek	Excellent	Average
Pine Valley	Excellent	Excellent
Powder River-Elk Creek	Excellent	Average
Summerville	Average	Average
Sumpter Valley	Excellent	Average
Union-Hot Lake	Excellent	Average
Unity	Excellent	Average



WATERSHED LOCATION

Report prepared by

T.A. GEORGE AND H.M. VANCE

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Bear near Wallowa	78	118	April-Sept.	81	66
Burnt near Hereford	50	147	April-July	38	34
	51	146	April-Sept.	38	35
Catherine near Union	79	123	April-Sept.	75	64
Eagle Creek above Skull Creek	222	132	April-July	195	168 ^m
	236	130	April-Sept.	211	182 ^m
Grande Ronde at La Grande	169	98	April-July	153	172
	173	99	April-Sept.	157	175
Hurricane near Joseph	58	123	April-Sept.	54	47
Imnaha at Imnaha	365	119	April-Sept.	295	307
Lostine near Lostine	151	121	April-Sept.	144	125
Powder near Baker	75	125	April-July		60
	77	124	April-Sept.		62
Wallowa, East Fork near Joseph ^d	10.9	115	April-July		9.5
	13.8	115	April-Sept.		12.0

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m
Burnt, Powder	2	119	131
Grande Ronde, Catherine Cr., Imnaha River	2	102	115

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ⁱ
Phillips Lake	73.5	65.1	45.5	- -
Thief Valley	17.4	17.4	17.4	- -
Unity	25.2	22.1	23.4	17.1
Wallowa Lake	37.5	22.9	14.6	23.2

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
Burnt River	4	105	130
Grande Ronde River above La Grande	4	120	65
Powder River	5	110	135
Wallowa, Imnaha, Catherine Creek	6	130	145

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.



WATER SUPPLY OUTLOOK UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS

OREGON

as of

APRIL 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

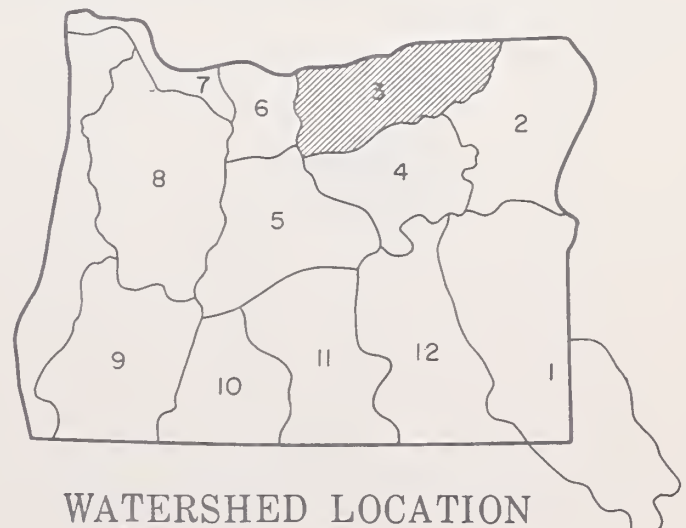
GENERAL OUTLOOK

WATER SUPPLIES WILL BE CLOSE TO AVERAGE THIS SPRING AND SUMMER. PRECIPITATION THIS PAST WINTER WAS 90 PERCENT OF NORMAL. THIS WAS THE ONLY AREA IN THE STATE BELOW AVERAGE. THIS PAST MONTH WAS COOL AND WET WITH ABOVE AVERAGE INCREMENTS OF SNOW BEING RECEIVED IN THE MOUNTAINS. THE SNOW COVER IS NEAR AVERAGE ON THE UMATILLA WATERSHED AND 80 PERCENT OF NORMAL ON MCKAY CREEK. SOILS ARE WET AND WILL BENEFIT THE SNOW MELT RUNOFF. RESERVOIR STORAGE IS GOOD FOR THIS TIME OF YEAR EVEN THOUGH MCKAY IS NOT EXPECTED TO FILL.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Walla Walla River, North Fk.	Average	Average
Walla Walla River, South Fk.	Average	Average
Walla Walla River, Main	Average	Average
Walla Walla River, Little	Average	Average
Couse Creek	Average	Average
Dry Creek	Average	Average
Pine Creek	Average	Average
Umatilla River, Main	Average	Average
Wildhorse Creek	Average	Average
Umatilla R. (Cold Springs Reservoir)	Average	Average
Umatilla R. (McKay Res.)	Average	Average
McKay Creek	Average	Fair
Birch Creek	Average	Fair
Butter Creek	Average	Fair
Willow Creek	Average	Fair
Rhea Creek	Average	Fair
Rock Creek (John Day Tributary)	Average	Average



WATERSHED LOCATION

Report prepared by

T.A. GEORGE AND H.M. VANCE

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR		PAST RECORD		
	FORECAST		THOUSAND ACRE FEET		
	Thousand Acre Feet	Percent of Average	FORECAST PERIOD	Last Year	Average ⁱ
Birch Creek at Rieth	18.2	99	April-July		18.4
Butter Creek near Pine City	7.6	88	April-July		8.6
McKay near Pilot Rock	25	89	April-Sept.		28
Umatilla near Gibbon	85	115	April-July		74
	88	110	April-Sept.		80
Umatilla at Pendleton	151	101	April-July		150
	155	100	April-Sept.		155
Walla Walla, North Fork near Milton	18.7	121	April-July		15.4
	19.5	122	April-Sept.		16.0
Walla Walla, South Fork near Milton	58	107	April-July		54
	70	104	April-Sept.		67

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Umatilla at Pendleton	550	June 29	June 22

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ⁱ
Cold Springs	50.0	50.0	48.9	48.8
McKay	73.8	49.2	69.4	47.1

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m
Umatilla, Walla Walla, McKay Creek	3	99	99

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
McKay Creek	3	120	80
Umatilla River	3	115	100
Walla Walla River	2	105	110

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.



WATER SUPPLY OUTLOOK UPPER JOHN DAY WATERSHEDS OREGON

as of

APRIL 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

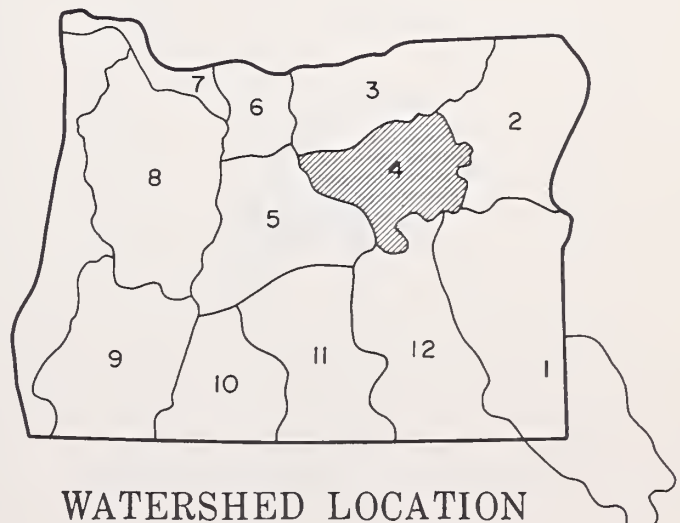
GENERAL OUTLOOK

EXCELLENT WATER SUPPLIES WILL BE AVAILABLE TO USERS IN THE UPPER JOHN DAY BASIN. PRECIPITATION THIS PAST WINTER HAS BEEN SLIGHTLY ABOVE AVERAGE. THE SNOW COVER IS 125 PERCENT OF NORMAL WITH SNOW MEASURING SITES RECEIVING MORE THAN TWICE THE USUAL AMOUNTS FOR MARCH. SOILS ARE WET AND WILL BENEFIT THE SNOW MELT RUNOFF. STREAMS WILL FLOW 120 TO 135 PERCENT OF AVERAGE AMOUNTS THIS SPRING AND SUMMER.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Beech Creek	Excellent	Average
Beech Creek-Fox-Long Cr.	Excellent	Average
Bridge-Mountain Creeks	Average	Average
Camas Creek	Average	Average
Cherry Creek	Average	Average
Indian-Pine Creeks	Average	Average
John Day River, Main Fork	Excellent	Average
John Day River, Mid. Fork	Excellent	Average
John Day River, North Fork	Excellent	Average
John Day River, South Fork	Excellent	Average
Monument-Kimberly	Excellent	Average
Strawberry Creek	Excellent	Average



WATERSHED LOCATION

Report prepared by
T.A. GEORGE AND H.M. VANCE
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Camas Creek near Ukiah	34	89	April-July		38
	35	90	April-Sept.		39
John Day at Prairie City	52	124	April-July		42
	55	120	April-Sept.		46
John Day, Middle Fork at Ritter	155	138	April-July	108	112
	160	138	April-Sept.	112	116
John Day, North Fork at Monument	760	134	April-July		568
	786	135	April-Sept.		583
Strawberry near Prairie City	9.1	117	April-July		7.7
	9.8	117	April-Sept.		8.4

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m
John Day abv. Dayville	6	95	90
John Day, North Fork	2	107	115

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
John Day, North Fork	7	110	115
John Day abv. Dayville	5	100	125

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.



WATER SUPPLY OUTLOOK UPPER DESCHUTES, CROOKED WATERSHEDS OREGON

as of

APRIL 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

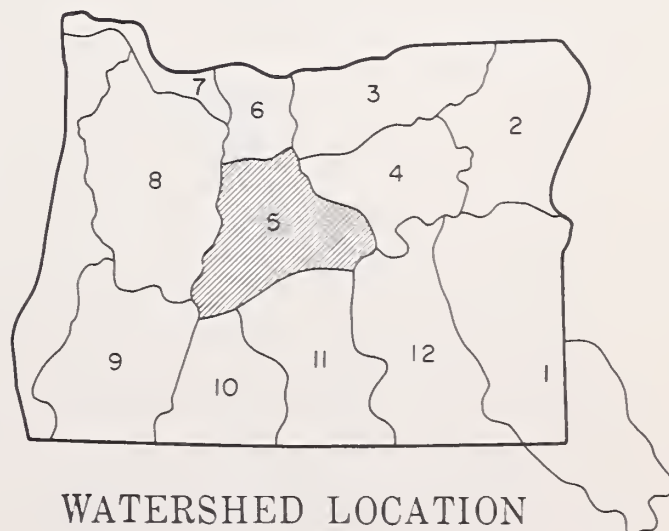
GENERAL OUTLOOK

THE WATER SUPPLY OUTLOOK IS ABOVE AVERAGE TO EXCELLENT FOR WATER USERS IN THE UPPER DESCHUTES, CROOKED WATERSHEDS FOR THIS SPRING AND EARLY SUMMER. MARCH STORMS INCREASED THE SNOWPACK ON THE DESCHUTES WATERSHED TO 40 AND 50 PERCENT ABOVE AVERAGE. THE OCHOCO WATERSHED HAS A SNOWPACK THAT IS 10 PERCENT ABOVE AVERAGE, UP FROM 90 PERCENT OF AVERAGE FOR LAST MONTH. WATERSHED SOILS ARE WET AND WILL PRODUCE GOOD RUNOFF FROM SPRING PRECIPITATION. PRECIPITATION DURING MARCH WAS 153 PERCENT OF AVERAGE. THE COMBINED STORAGE OF THE OCHOCO AND PRINEVILLE RESERVOIRS IS 20 PERCENT ABOVE AVERAGE. APRIL 1 STORAGE IN CRANE PRAIRIE, CRESCENT LAKE AND WICKIUP IS 90 PERCENT OF AVERAGE. THE DESCHUTES AT MOODY FLOWED 103 PERCENT OF AVERAGE DURING THE MONTH.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Arnold Irrigation District	Excellent	Average
Bear Creek	Average	Average
Beaver Creek	Average	Average
Camp Creek	Average	Average
Central Ore. Irrig. Dist.	Excellent	Excellent
Crooked River	Excellent	Average
Deschutes River	Excellent	Average
Hay-Trout Creeks	Average	Average
Lone Pine Irrig. Dist.	Excellent	Average
Mill Creek	Average	Average
North Unit Irrig. Dist.	Excellent	Average
Ochoco Creek	Excellent	Average
Sisters Irrigation Dist.	Excellent	Average
Snow Creek Irrig. Dist.	Excellent	Average
Squaw Creek Irrig. Dist.	Excellent	Average
Swalley Ditch	Excellent	Excellent
Tumalo Project	Excellent	Average
Walker Basin Irrig. Dist.	Excellent	Average



WATERSHED LOCATION

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T.A. GEORGE AND H.M. VANCE

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Beaver Creek near Paulina	22	110	April-July		20
	22	110	April-Sept.		20
Crane Prairie Reservoir total Inflow	106	128	April-July		83
	160	127	April-Sept.		126
Crescent at Crescent Lake	28	127	April-July		22
	35	125	April-Sept.		28
Crooked near Post	114	115	April-July		99
	115	114	April-Sept.		101
Deschutes at Benham Falls ^d	443	113	April-July		393
	649	109	April-Sept.		596
Deschutes below Snow Creek	80	121	April-Sept.		66
Deschutes, Little near Lapine ^d	120	144	April-July		83
	135	142	April-Sept.		95
Ochoco Reservoir net Inflow	25	108	April-Sept.		23
Odell near Crescent	36	120	April-Sept.		30
Squaw near Sisters	58	114	April-Sept.		51
Tumalo near Bend ^d	58	118	April-Sept.		49

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Crane Prairie net Inflow	300	Will not recede to 300	July 15
Deschutes at Bend	1500	Aug. 27	July 1
Little Deschutes near La Pine	400	June 29	June 7
	200	July 29	July 8

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ⁱ
Crane Prairie	55.3	46.1	45.8	47.6
Crescent Lake	86.9	49.3	42.9	49.9
Ochoco	47.5	42.9	45.0	33.2
Prineville	153.0	133.4	148.1	115.8
Wickiup	200.0	184.0	185.6	194.4

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m
Crooked R., Upper Deschutes River	2	97	94

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
Crooked, Ochoco	4	125	110
Deschutes abv. Wickiup	3	170	140
Little Deschutes	4	210	150
Tumalo & Squaw Crs.	3	185	145

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.



WATER SUPPLY OUTLOOK HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS

OREGON

as of

APRIL 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

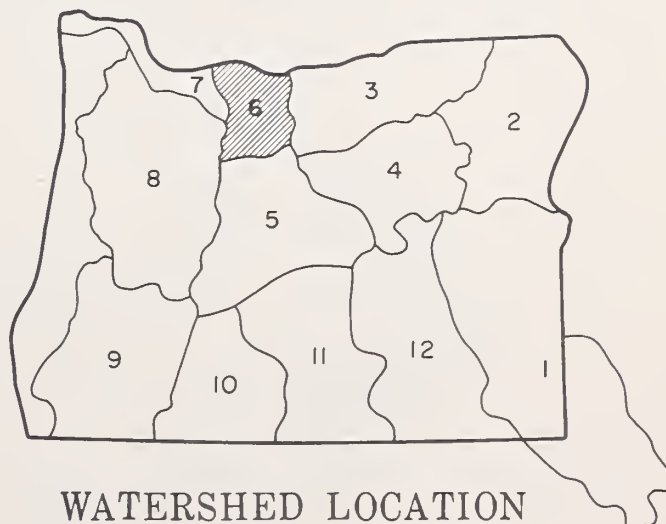
GENERAL OUTLOOK

EXCELLENT WATER SUPPLIES WILL BE AVAILABLE FOR HOOD RIVER AND WASCO COUNTY WATER USERS. A SNOWPACK OF NEAR RECORD PROPORTIONS HAS ACCUMULATED THIS PAST WINTER. MARCH BROUGHT ABOUT TWICE THE NORMAL SNOW TO MOUNTAIN SNOW COURSES. RECORD AMOUNTS OF 103.5 INCHES (NORMAL 66.5) AND 29.0 INCHES (NORMAL 16.5) OF SNOW WATER WERE MEASURED AT THE UMBRELLA FALLS AND SWITCHBACK SNOW COURSES, RESPECTIVELY. THE OVERALL SNOW COVER IS 160 PERCENT OF AVERAGE. PRECIPITATION THIS PAST WINTER WAS 110 PERCENT AND FOR MARCH WAS 140 PERCENT OF AVERAGE. WASCO (CLEAR LAKE) WILL NOT FILL BUT IS STORING A GOOD AMOUNT FOR APRIL 1. STREAMFLOW VOLUMES DURING APRIL, MAY AND JUNE WILL BE 125 PERCENT TO 140 PERCENT OF AVERAGE.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Aldridge Ditch (Tony Creek)	Excellent	Excellent
Badger Creek	Excellent	Average
Dee Irrigation District	Excellent	Excellent
East Fork Irrig. Dist.	Excellent	Excellent
Farmers Irrigation District	Excellent	Excellent
Hood River Irrig. District	Excellent	Excellent
Juniper Flat	Excellent	Excellent
Middle Fork Irrig. District	Excellent	Excellent
Mile Creeks	Excellent	Excellent
Mill Creek	Excellent	Excellent
Mount Hood Irrig. Dist.	Excellent	Excellent
Rock-Gate-Threemile Crs.	Excellent	Excellent
Tygh Creek	Excellent	Excellent
White River	Excellent	Excellent



WATERSHED LOCATION

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Hood River near Hood River ^d	370	131	April-July		282
	430	128	April-Sept.		336
Hood, West Fork near Dee	178	127	April-July		140
	201	125	April-Sept.		161
White below Tygh Valley	176	137	April-July	91	128
	195	135	April-Sept.	105	144

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Clear Branch Inflow	*53	July 15-31	
*Average cfs forecast to flow for this two-week period.			

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ⁱ
Clear Lake (Wasco)	11.9	5.6	6.8	4.0 ^m

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m
Hood River, Mile Creeks	1	97	--

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
Hood River	6	205	160
Mile Creeks	3	250	155
White River	3	205	160

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

WATER SUPPLY OUTLOOK LOWER COLUMBIA WATERSHEDS OREGON

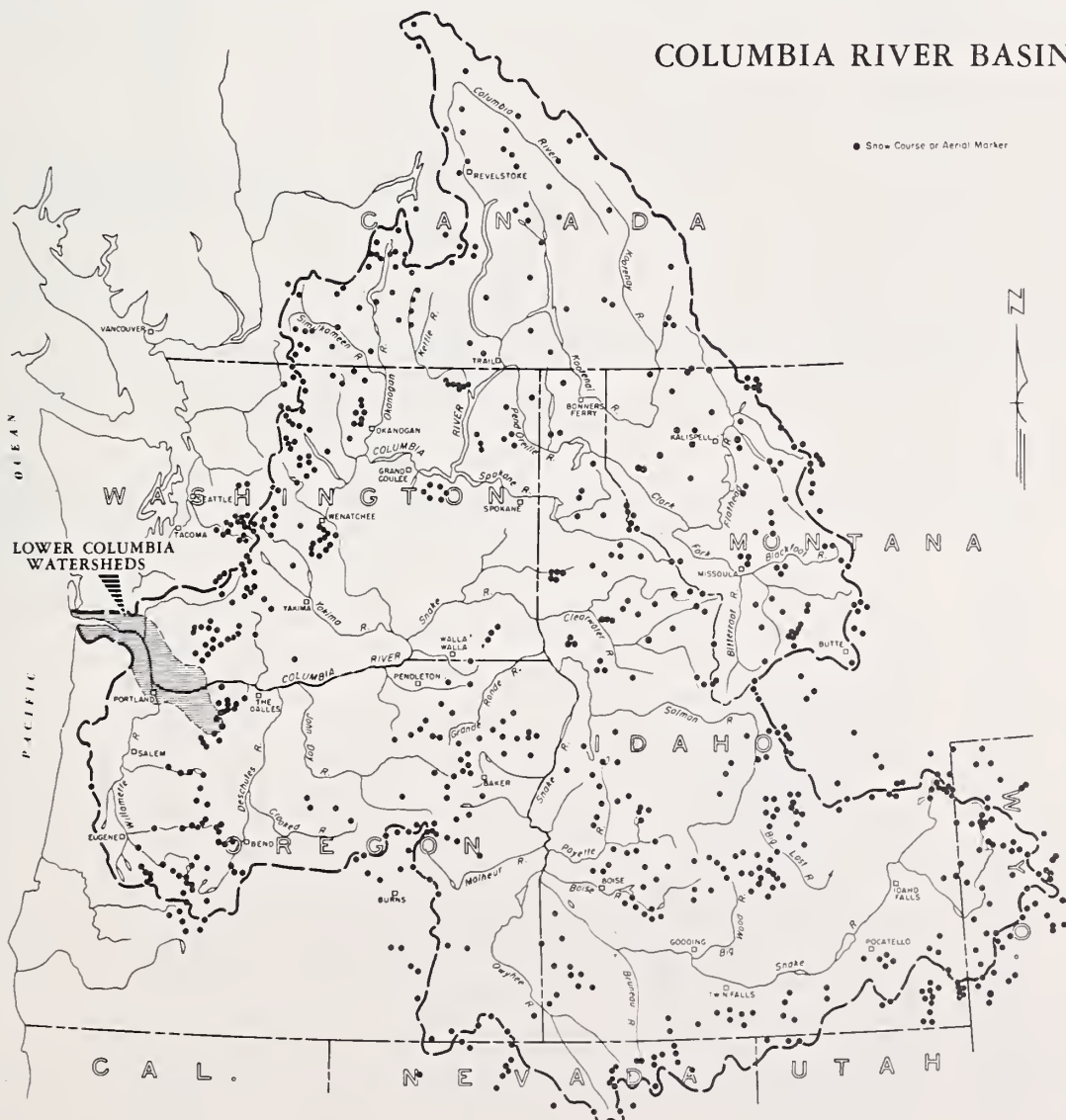
as of

APRIL 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

STREAMFLOW THAT IS ABOVE NORMAL IS FORECAST FOR THE LOWER COLUMBIA RIVER THIS SPRING AND SUMMER. PRECIPITATION WAS GENERALLY AVERAGE TO ABOVE AVERAGE THROUGHOUT THE COLUMBIA BASIN DURING MARCH. TEMPERATURES WERE COOL AND THE SNOWPACK INCREASED MORE THAN AVERAGE AMOUNTS. THE SNOW COVER IS AVERAGE OR BETTER IN CANADA AND UP TO 130% OF NORMAL IN PORTIONS OF WASHINGTON, OREGON, AND IDAHO. MOUNTAIN SOILS ARE SATURATED AND WILL ENHANCE THE SNOW MELT RUNOFF. STAGES ALONG THE LOWER COLUMBIA WILL BE 120% OF AVERAGE THIS SUMMER.



Report prepared by
T. A. GEORGE AND H. M. VANCE
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average i
Sandy River	2	195	155

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average i
Columbia at The Dalles ^d	87,000	120	April-June		72,406
	125,000	119	April-Sept.		105,176
Sandy River near Marmot	432	120	April-July		359
	487	118	April-Sept.		413

HISTORICAL DATA (Columbia River at The Dalles)

YEAR	STREAMFLOW ^d (1,000 A.F.)			PEAK (1,000 c.f.s.)	DATE
	APR. - SEPT.	APR. - JUNE	MAY - JUNE		
1953	100,600	64,900	55,800	609	June 17
1954	119,500	70,500	59,300	561	May 23
1955	99,500	58,300	50,300	545	June 26
1956	131,400	96,900	75,800	815	June 3
1957	105,700	80,500	67,200	700	May 22
1958	97,700	72,000	58,600	593	May 31
1959	112,500	71,900	58,900	555	June 23
1960	97,000	64,000	48,000	442	June 6
1961	101,400	74,400	64,000	699	June 8
1962	94,600	64,100	49,200	460	June 5
1963	87,000	56,300	46,200	437	June 18
1964	109,020	70,739	61,313	662	June 18
1965	114,137	80,024	62,477	520	June 9
1966	87,268	58,120	45,922	396	June 12
1967	107,771	72,903	65,112	622	June 10
1953-67 Avg.	105,181	72,408	59,689	574	

LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)

VANCOUVER GAGE (Weather Bu.)	FLOW AT THE DALLES (1,000 c.f.s.)	DRAINAGE DISTRICT PUMPHOUSE						
		SANDY	SAUVIE ISL.	SCAPPOOSE	DEER ISL.	RAINIER	BEAVER	WOODSON
		RIVER MILES						
		118.9	96.0	91.0	77.0	62.0	52.0	47.0
35 (1894)	1210	41.2	34.2	33.3	28.5	21.9	17.5	15.5
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3
32	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0
30	943	36.6	29.5	28.5	24.3	18.1	14.0	12.4
29	897	35.5	28.5	27.7	23.7	17.5	13.4	11.8
28	853	34.3	27.5	26.7	22.8	17.0	13.0	11.4
27 (1956)	811	33.0	26.5	25.6	21.8	16.2	12.5	11.0
26 (1950)	771	32.1	25.5	24.6	20.9	15.5	12.2	10.7
25	733	30.7	24.2	23.2	19.7	14.6	11.7	10.3
24	697	29.7	23.0	22.2	19.0	14.1	11.4	10.2
23	662	29.0	22.3	21.4	18.4	13.6	11.2	10.0
22	628	28.1	21.4	20.3	17.2	13.0	10.9	9.7
21	595	27.2	20.7	19.5	16.4	12.6	10.6	9.6
20 (1954)	564	26.2	19.8	18.6	15.5	12.1	10.2	9.4
19	534	25.5	19.2	18.0	15.0	11.8	10.0	9.3
18	501	24.4	18.3	17.2	14.3	11.4	9.8	9.1
17	479	23.4	17.4	16.4	13.7	11.0	9.6	8.9
16	452	22.4	16.5	15.5	13.0	10.5	9.3	8.7

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records.



WATER SUPPLY OUTLOOK WILLAMETTE WATERSHEDS OREGON

as of

APRIL 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

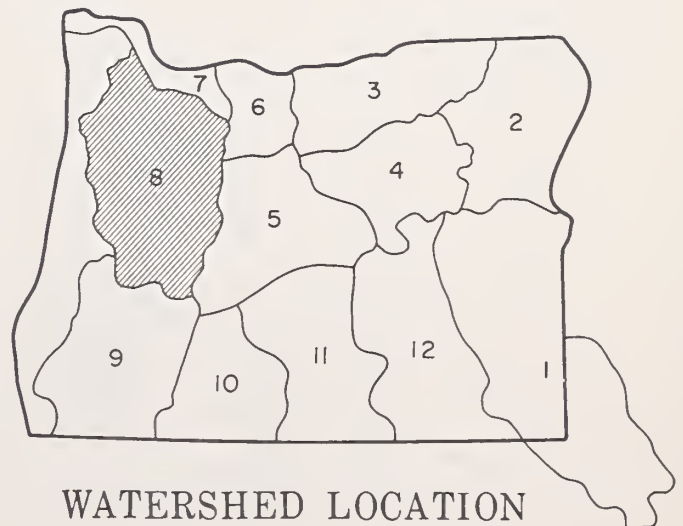
GENERAL OUTLOOK

THE WILLAMETTE VALLEY WILL HAVE EXCELLENT WATER SUPPLIES THIS SUMMER. THE SNOW COVER IS CLOSE TO THE RECORD MEASUREMENTS OF 1949 AND 1956. IT IS 160 PERCENT OF AVERAGE. PRECIPITATION FOR THE WINTER WAS 120 PERCENT OF NORMAL. RESERVOIRS HAVE BEEN LOWERED IN ANTICIPATION OF THE HIGH VOLUMES OF WATER EXPECTED ON WILLAMETTE VALLEY STREAMS DURING THE NEXT SEVERAL MONTHS. STREAMFLOW WILL BE 120 PERCENT TO 140 PERCENT OF AVERAGE.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Calapooya	Excellent	Excellent
Clackamas	Excellent	Excellent
McKenzie	Excellent	Excellent
Molalla	Excellent	Excellent
Santiam, North	Excellent	Excellent
Santiam, South	Excellent	Excellent
Willamette, Coast Fork	Excellent	Excellent
Willamette, Middle Fork	Excellent	Excellent



WATERSHED LOCATION

Report prepared by
T.A. GEORGE AND H.M. VANCE
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
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PORTLAND, OREGON 97205

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Clackamas at Estacada	883	128	April-July	526	689
	993	124	April-Sept.	634	800
Clackamas above Three Lynx	676	131	April-July	393	517
	767	126	April-Sept.	488	610
McKenzie at McKenzie Bridge	573	123	April-July		465
	743	121	April-Sept.		614
McKenzie near Vida	1289	119	April-July		1087
	1517	115	April-Sept.		1321
McKenzie, South Fork near Rainbow	299	135	April-July		221
	326	129	April-Sept.		252
Oak Grove Fork above Power Intake	166	133	April-July	110	125
	216	133	April-Sept.	149	163
Row near Dorena	133	125	April-July		106
	136	124	April-Sept.		110
Santiam, North at Mehama ^d	1122	140	April-July		800
	1308	145	April-Sept.		901
Santiam, South at Waterloo	787	132	April-July		596
	833	132	April-Sept.		633
Willamette, Mid. Fk. blw. N. Fk. nr. Oakridge ^d	942	130	April-July		725
	1050	129	April-Sept.		828
Willamette, No. Fk. of Mid. Fk. near Oakridge	249	126	April-July		198
	267	122	April-Sept.		219
Willamette at Salem ^d	5400	115	April-July		4696
	6000	115	April-Sept.		5199

RESERVOIR STORAGE (Thousand Ac. Ft.)

END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ⁱ
Blue River	85.6*	27.6	- -	- -
Cottage Grove	30.0*	13.7	15.7	17.2
Cougar	155.2*	52.6	90.6	- -
Detroit	299.9*	108.3	216.7	170.1
Dorena	70.5*	29.5	40.2	38.6
Fall Creek	115.0*	38.7	73.9	- -
Fern Ridge	94.2*	6.5	68.2	68.8
Foster	30.0*	19.2	14.9	- -
Green Peter	270.0*	87.9	183.1	- -
Hills Creek	200.0*	65.2	153.2	120.3
Lookout Point	337.2*	114.2	198.8	195.6
Timothy Lake	61.7	54.8	61.5	49.4
*Multiple purpose reservoir--space reserved primarily for flood runoff.				

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
Clackamas River	2	335	160
McKenzie River	3	320	155
Row River	2	385	165
Santiam River	4	380	180
Willamette, Mid. Fk.	5	235	145

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

WATER SUPPLY OUTLOOK ROGUE, UMPQUA, WATERSHEDS OREGON

as of

APRIL 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

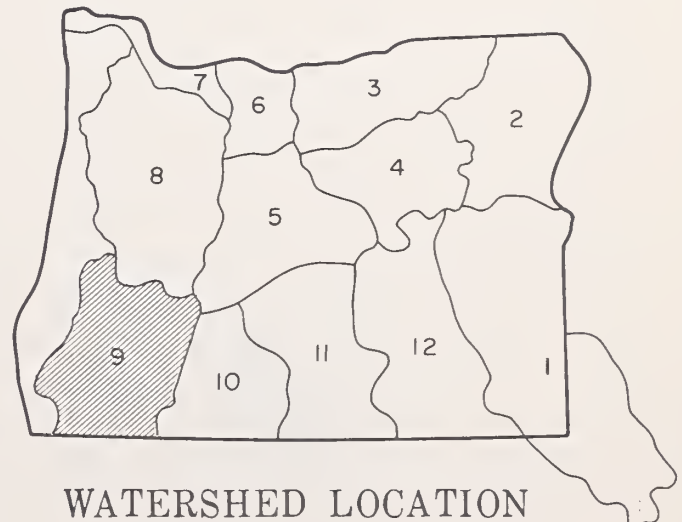
GENERAL OUTLOOK

THE ROGUE AND UMPQUA RIVER VALLEYS WILL HAVE EXCELLENT WATER SUPPLIES DURING THE 1971 SEASON. WATER SUPPLIES IN THE ILLINOIS VALLEY WILL BE AVERAGE. STORMS DURING MARCH PRODUCED A SNOWPACK RANGING FROM 115 PERCENT ON THE ILLINOIS DRAINAGE TO 480 PERCENT OF AVERAGE ON BEAR CREEK. THE SNOWPACK ON THE UMPQUA AND ROGUE RIVER DRAINAGES WAS 160 AND 140 PERCENT OF AVERAGE RESPECTIVELY. PRECIPITATION DURING THE MONTH WAS 150 PERCENT OF AVERAGE. SOILS ARE WET ON THE MOUNTAIN WATERSHEDS. STREAMS WILL FLOW 100 TO 130 PERCENT OF AVERAGE NEXT SUMMER. RESERVOIRS ARE FULL OR HOLDING ABOVE AVERAGE AMOUNTS AND WILL FILL DURING SPRING RUNOFF. PRECIPITATION DURING THE MONTH STIMULATED STREAMFLOW IN THE AREA. THE UMPQUA AT ELKTON FLOWED 72 PERCENT ABOVE AVERAGE AND THE ROGUE AT RAYGOLD FLOWED 59 PERCENT ABOVE AVERAGE DURING MARCH.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Althouse Creek	Average	Average
Applegate River, Big	Average	Average
Applegate River, Little	Average	Average
Ashland Creek	Average	Average
Butte Creek, Big	Excellent	Average
Butte Creek, Little	Excellent	Average
Cow Creek	Average	Average
Deer Creek	Average	Average
Elk Creek	Average	Average
Emigrant Creek (abv. Res.)	Average	Average
Evans Creek	Average	Average
Gold Hill Irrigation Dist.	Excellent	Excellent
Grants Pass Irrig. District	Excellent	Excellent
Grave Creek	Average	Average
Illinois River, East Fork	Average	Average
Illinois River, West Fork	Average	Average
Jump-off-Joe Creek	Average	Average
Neil Creek	Average	Average
Red Blanket Creek	Excellent	Average
Rogue River	Excellent	Average
Sucker Creek	Average	Average
Table Rock Irrig. Dist.	Excellent	Average
Thompson Creek	Average	Average
Wagner Creek	Average	Average
Williams Creek	Average	Average



WATERSHED LOCATION

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T.A. GEORGE AND H.M. VANCE
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

STREAMFLOW FORECASTS

STREAMFLOW FORECASTS	THIS YEAR			PAST RECORD	
BASIN, STREAM and/or FORECAST POINT	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average i
Applegate near Copper	153	109	April-Sept.		140
Clearwater above Trap Creek ^d	74	101	April-Sept.		73
Fourmile Lake net Inflow	8.2	200	April-Sept.		4.1
Hyatt Reservoir net Inflow ^d	7.2	138	April-Sept.		5.2
Illinois River near Kerby	205	100	April-July		205
	211	100	April-Sept.		211
Little Butte, N. Fk. at Fish Lk. nr. Lake Cr. ^d	17.0	118	April-Sept.		14.4
Little Butte, So. Fk. nr. Lake Creek	45	136	April-July		33
Rogue above Prospect	352	130	April-July		269
	424	130	April-Sept.		326
Rogue, South Fork near Prospect ^d	78	128	April-July		62
	89	120	April-Sept.		74
Rogue River below South Fork	665	117	April-July		570
	819	116	April-Sept.		708
Rogue at Raygold near Central Point	924	118	April-July	536	781
	1118	118	April-Sept.	672	941
Rogue at Grants Pass	1099	117	April-Sept.		940
Umpqua, No. blw. Lemolo Res. nr. Toketee Falls ^d	202	115	April-Sept.		176

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Little Butte Creek, South Fork	100	June 10	May 27
Rogue at Raygold	1200	Sept. 22	Aug. 7

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ⁱ
Emigrant Lake*	39.0	38.0	39.0	35.0
Fish Lake	7.8	6.3	6.3	6.0
Fourmile Lake	16.1	12.0	11.8	10.6
Howard Prairie	60.0	60.6	60.6	32.7
Hyatt Prairie	16.1	15.8	16.1	11.9
*Average for years of record (in base period) after reconstruction.				

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
Applegate	3	145	115
Bear Creek	1	--	480
Butte Creek	4	780	165
Illinois River	3	295	105
North Umpqua	3	390	160
Rogue River	6	205	140

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

WATER SUPPLY OUTLOOK KLAMATH WATERSHEDS OREGON

as of

APRIL 1, 1971



U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

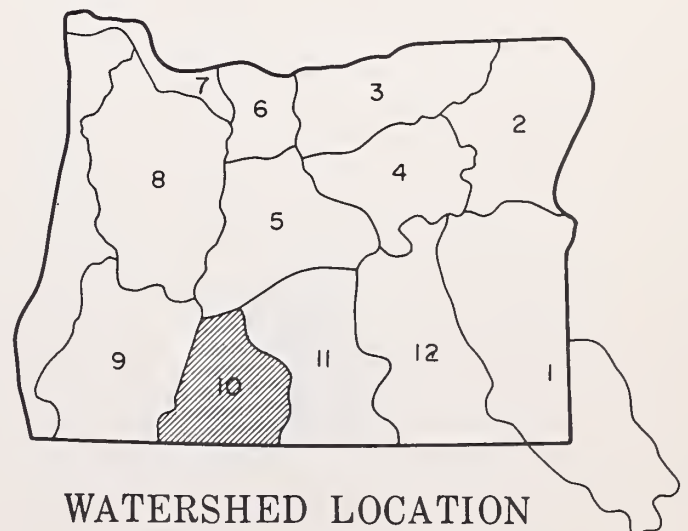
GENERAL OUTLOOK

KLAMATH COUNTY WILL HAVE EXCELLENT WATER SUPPLIES DURING THE 1971 IRRIGATION SEASON. THE SNOWPACK WAS INCREASED BY 30 TO 40 PERCENT DURING MARCH AND RANGES FROM 120 PERCENT OF AVERAGE ON TWENTYMILE CREEK TO 180 PERCENT OF AVERAGE ON SILVER CREEK. SOILS ARE WELL WETTED AND WILL ENHANCE RUNOFF FROM SPRING RAINS. PRECIPITATION DURING MARCH WAS 208 PERCENT OF AVERAGE, PRODUCING EXCELLENT STREAMFLOW DURING THE MONTH. THE INFLOW TO UPPER KLAMATH LAKE WAS 125 PERCENT OF AVERAGE. RESERVOIRS IN THE AREA WERE NEARLY FULL WITH SOME SPILLING TO MAKE ROOM FOR MORE RUNOFF.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Ft. Klamath Valley	Excellent	Average
Lost River (Clear Lake)	Excellent	Average
Lost River (Gerber)	Excellent	Average
Lost River (Willow Res.)	Excellent	Average
Sprague River	Excellent	Average
Upper Klamath Lake	Excellent	Average
Williamson River	Excellent	Average



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Clear Lake Reservoir Inflow ^k	45	122	April-June		37
	48	120	April-Sept.		40
Gerber Reservoir Inflow ^k	21.6	115	April-June		18.8
	22.4	115	April-Sept.		19.5
Sprague near Chiloquin	312	119	April-July		263
	350	118	April-Sept.		296
Upper Klamath Lake net Inflow ^k	602	118	April-July	287	511
	713	115	April-Sept.	345	619
Williamson below Sprague River	565	119	April-Sept.		475

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m
Upper Klamath	2	99	110

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ⁱ
Clear Lake	440.2	400.2	375.3	250.4
Gerber	94.0	90.8	92.7	56.6
Upper Klamath Lake	584.0	525.2	503.9	467.4

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
Lost River	4	180	135
Sprague River	3	200	130
Upper Klamath	8	245	140
Williamson River	3	265	145

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co., or USBR records. (m) Average for 5 or more years in base period.

WATER SUPPLY OUTLOOK LAKE COUNTY, GOOSE LAKE WATERSHEDS OREGON

as of

APRIL 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

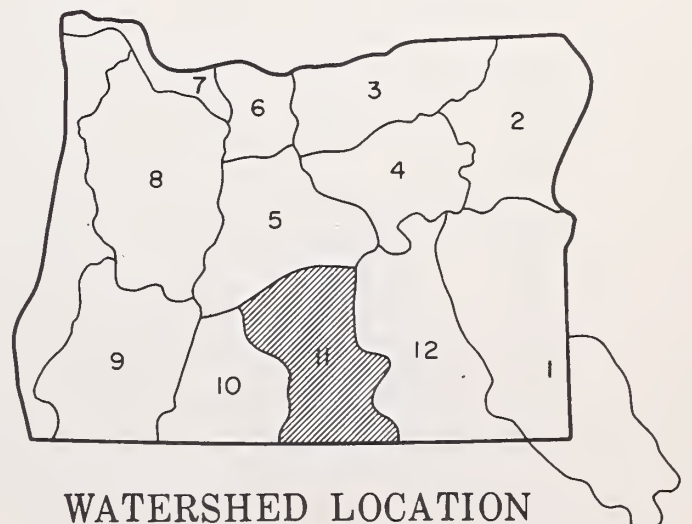
GENERAL OUTLOOK

LAKE COUNTY WILL HAVE ABOVE AVERAGE WATER SUPPLIES FOR THIS SPRING AND EARLY SUMMER. SNOW STORMS DURING MARCH INCREASED THE SNOWPACK TO 120 TO 180 PERCENT OF AVERAGE. MARCH PRECIPITATION WAS 200 PERCENT OF AVERAGE. SOILS ARE WELL WETTED IN THE AREA. ALL RESERVOIRS IN THE AREA ARE FULL.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Chewaucan River	Excellent	Average
Crooked Creek	Excellent	Average
Deep Creek	Excellent	Average
Dry Creek	Excellent	Average
East Side Goose Lake	Excellent	Average
Guano Lake	Excellent	Average
Honey Creek	Excellent	Average
Lakeview Water Users Assn.	Excellent	Excellent
Rock Creek (Hart Mountain)	Average	Average
Silver-Buck Creeks	Average	Average
Summer Lake	Excellent	Average
Thomas Creek	Average	Average
Twentymile Creek	Excellent	Average
Warner Lakes	Excellent	Average



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^(k)
Chewaucan near Paisley	95	120	April-July		79
	100	119	April-Sept.		84
Deep above Adel	83	130	April-July		64
	84	130	April-Sept.		65
Drews Reservoir net Inflow	38	127	April-July		30
	38	127	April-Sept.		30
Honey near Plush	20.4	128	April-July		15.9
	20.5	127	April-Sept.		16.1
Silver Creek near Silver Lake	19.9	107	April-July		18.6
	21.4	107	April-Sept.		20
Twentymile near Adel	20	119	April-July		16.8
	21	122	April-Sept.		17.2

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^(m)
Chewaucan, Silver Creek			
Drew Creek	1	97	114
Honey, Deep, 20-mile Crs.	1	99	108

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^(k)
Cottonwood*	8.7	8.7	8.7	4.4
Drews	63.0	63.5	63.4	44.6
Thompson Valley	19.5	--	--	12.7
*Average for years of record (in base period) after reconstruction.				

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁽ⁱ⁾
Chewaucan River	3	200	140
Deep Creek	3	200	130
Drew Creek	3	530	130
Honey Creek	3	165	125
Silver Creek	3	--	180
Twentymile Creek	3	145	120

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

WATER SUPPLY OUTLOOK HARNEY BASIN WATERSHEDS OREGON

as of

APRIL 1, 1971



U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

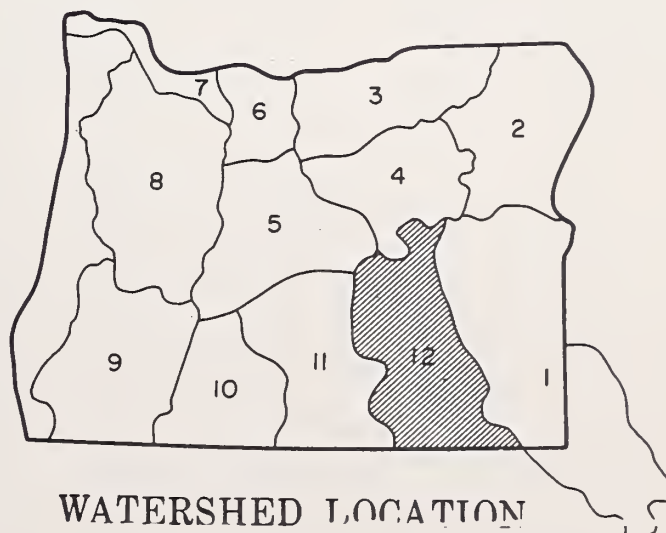
GENERAL OUTLOOK

ABOVE AVERAGE WATER SUPPLIES ARE FORECAST FOR MOST OF HARNEY COUNTY THIS SPRING AND SUMMER. LOW ELEVATION DESERT STREAMS WILL EXPERIENCE SOME LATE SEASON SHORTAGES. THE SNOWPACK AT THE HIGHER ELEVATIONS ON THE SILVIES AND DONNER UND BLITZEN RIVERS ARE 30 PERCENT ABOVE AVERAGE. PRECIPITATION DURING MARCH WAS 158 PERCENT OF AVERAGE. SOILS ARE WET AND WILL ENHANCE RUNOFF FROM SPRING PRECIPITATION.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Catlow Valley	Average	Average
Cow Creek	Excellent	Average
Donner und Blitzen River	Excellent	Average
Mill-Coffeepot Creeks	Excellent	Average
Rattlesnake Creek	Excellent	Average
Silver Creek	Excellent	Average
Silvies River	Excellent	Average
Soldier-Prather Creek	Average	Fair
Trout Creek	Fair	Fair
Whitehorse Creek	Fair	Fair



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Donner und Blitzen near Frenchglen	65	127	April-July	47	51
	70	127	April-Sept.	51	55
Silver near Riley	21	117	April-July	11.3	17.9
Silvies near Burns	107	132	April-July		81
	110	132	April-Sept.		83
Trout near Denio	4.0	56	April-July		7.1
	4.1	55	April-Sept.		7.5

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m
Silvies River, Silver Cr.	2	101	110
Trout Creek, Donner und Blitzen River	1	121	124

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^k
Donner und Blitzen R.	4	120	130
Silver Creek	3	105	90
Silvies River	4	110	135
Trout Creek	3	25	30

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

BASIC DATA SUPPLEMENT 1

APRIL 1, 1971

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave.
OWYHEE, MALHEUR WATERSHEDS					
Antelope Ridge (Ida.)	3/29	21	7.7	6.2	4.0
Battle Creek ^e (Ida.)	3/30	0	0.0	0.0	2.0
Bear Creek ^e (Nev.)	3/27	75	27.5	22.6	19.1
Big Bend (Nev.)	3/25	35	12.0	10.2	8.1
Blue Mountain Springs	3/26	63	20.9	21.2	15.5
Blue Mtn. Springs Pillow	3/26		10.9	-	-
Buck Pasture ^e	3/30	T	T	0.0	2.2
Buckskin, Lower (Nev.)	3/29	21	8.5	7.3	7.0
Buckskin, Upper (Nev.)	3/29	21	7.7	12.8	9.2
Bull Basin ^e (Ida.)	3/30	0	0.0	T	0.4
Bully Creek ^e	3/30	T	T	T	0.7
Call Meadow ^e	3/30	12	4.1	3.0	3.0
Columbia Basin ^e (Nev.)	3/29	17	5.8	6.3	-
Cottonwood-Indian ^e	3/30	0	0.0	0.0	0.4
Crane Prairie	3/26	36	12.2	12.4	8.6
Crow Camp ^e	DISCONTINUED			0.0	0.8
Disaster Peak (Nev.)	3/26	30	11.5	10.5	9.5
Eldorado Pass	3/29	4	1.5	0.0	0.6
Fawn Creek ^e (Nev.)	3/29	14	4.9	3.6	-
Fish Creek	3/30	88	33.1	29.2	25.0
Flag Prairie ^e	3/30	21	7.1	4.5	1.8
Fox Creek (Nev.)	3/27	33	12.8	10.8	8.9
Fry Canyon (Nev.)	3/25	16	5.0	8.5	6.3
Gold Creek (Nev.)	3/24	21	7.3	7.0	4.7
Granite Peak (Nev.)	3/29	53	20.8	20.4	12.6
Hyde Pasture ^e	3/30	6	2.0	1.2	2.0
Jack Creek, Lower (Nev.)	6			0.0	2.8
Jack Creek, Upper (Nev.)	3/26	35	12.1	10.5	9.8
Jack Peak (Nev.)	3/26	102	33.4	14.3	25.7
Lake Creek R. S.	3/26	38	12.8	14.0	9.3
Laurel Draw (Nev.)	3/29	17	6.2	8.8	7.2
Logan Valley ^e	3/30	20	7.1	8.4	5.4
Lookout Butte ^e	3/30	0	0.0	0.0	T
Louse Canyon ^e	3/30	0	0.0	T	1.6
Martin Creek (Nev.)	3/29	19	8.1	9.8	8.2
Merritt Mountain ^e (Nev.)	3/29	16	5.6	4.3	-
Midas ^e (Nev.)	3/25	1	0.3	T	1.6
Mud Flat (Ida.)	3/29	14	4.8	4.9	4.2
Oregon Canyon ^e	3/30	2	0.6	4.0	4.4
Quinn Ridge ^e (Nev.)	3/30	0	0.0	0.0	0.7
Red Canyon ^e (Ida.)	3/30	10	3.4	4.6	4.4
Rock Spring	3/30	22	7.2	4.4	4.3
Rodeo Flat (Nev.)	3/24	9	2.7	6.7	5.8
76 Creek (Nev.)	3/22	41	13.2	15.4	10.9
Silver City (Ida.)	3/28	54	20.2	15.0	14.4
Silvies	3/30	38	15.4	12.8	12.3
South Mountain #2 (Ida.)	3/30	35	15.4	15.0	10.9
Stag Mountain ^e (Nev.)	3/29	10	3.6	2.6	-
Stinking Water	3/29	0	0.0	0.0	0.3
Succor Creek ^e (Ida.)	3/30	10	3.4	3.9	4.9
Taylor Canyon (Nev.)	3/26	0	0.0	0.0	2.9
Toe Jam ^e (Nev.)	3/29	24	9.1	6.3	-
Tremewan Ranch (Nev.)	3/25	0	0.0	0.0	0.0
Triangle (Ida.)	3/25	0	0.0	0.0	0.4
Trout Creek ^e	3/30	10	3.4	8.0	7.9
"V" Lake ^e	3/30	21	6.3	4.8	3.8
Vaught Ranch ^e (Ida.)	3/30	0	0.0	T	-
War Eagle ^e (Ida.)	3/30	58	23.2	26.1	-

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave.
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS					
Aneroid Lake #1	3/30	127	51.2	34.4	37.2 ^h
Aneroid Lake #2	3/30	111	46.0	30.8	32.9
Anthony Lake	3/29	84	30.6	33.4	27.7
Bald Mountain ^e (Oregon)	4/1	83	34.9	30.7	24.6 ^m
Beaver Reservoir	3/29	33	9.3	8.3	11.4
Beaver Reservoir (Alt.)	3/29	38	12.3	-	-
Big Sheep ^e	4/1	117	46.8	21.0	23.0 ^m
Blue Mtn. Summit	3/30	29	9.7	8.9	7.4
Bourne	3/26	55	18.4	17.8	15.0
County Line	3/30	12	3.1	3.4	5.6
Dooley Mountain	3/26	33	10.9	10.3	7.6
Eilertson Meadows	3/25	38	14.1	14.3	11.3
Eldorado Pass	3/29	4	1.5	0.0	0.6 ^h
Gold Center	3/29	50	19.6	15.9	12.2
Goodrich Lake	4/1	141	67.6	45.1	36.2
Intake House	3/25	46	14.3	12.8	-
Little Alps	3/29	51	16.8	16.0	14.7 ^h
Little Antone	3/29	19	7.0	7.0	-
Lucky Strike	3/31	39	12.4	13.4	13.6 ^h
Meacham	3/29	18	6.7	4.4	9.6
Mirror Lake ^e	4/1	228	91.2	85.6	66.9 ^m
Moss Spring	4/1	88	32.6	29.4	24.1
Power Plant	3/26	21	7.5	3.4	-
Schneider Meadows	3/29	119	45.3	34.4	29.9
Schoolmarm	3/30	6	1.6	1.5	4.2
Standley ^e	4/1	92	38.6	40.7	30.2 ^m
Taylor Green	4/1	62	22.0	21.2	16.6
Tipton	3/30	37	13.7	12.1	9.6
Tipton Snow Pillow	3/30		18.8	-	-
Tollgate	3/29	73	30.7	29.7	26.5
TV Ridge ^e	4/1	81	30.8	24.7	-
UMATILLA, WALLA WALLA, WILLOW, ROCK LOWER JOHN DAY WATERSHEDS					
Arbuckle Mountain	3/29	31	11.6	11.4	11.3
Battle Mountain Summit	3/29	T	T	T	1.3 ^m
Blue Mountain Camp	3/29	30	14.8	14.4	14.0 ^h
Emigrant Springs	3/29	8	2.6	T	3.1
Lucky Strike	3/31	39	12.4	13.4	13.6 ^h
Meacham	3/29	18	6.7	4.4	9.6
Tollgate	3/29	73	30.7	29.7	26.5
Weston Mountain	3/29	0	0.0	0.0	0.1 ^m

BASIC DATA SUPPLEMENT 1

APRIL 1, 1971

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave.

UPPER JOHN DAY WATERSHEDS					
Anthony Lake	3/29	84	30.6	33.4	27.7
Arbuckle Mountain	3/29	31	11.6	11.4	11.3
Battle Mountain Summit	3/29	T	T	T	1.3 ^m
Beech Creek Summit	3/29	16	5.8	2.0	3.6
Blue Mountain Springs	3/26	63	20.9	21.2	15.5
Blue Mtn. Springs Pillow	3/26		10.9	-	-
Blue Mountain Summit	3/30	29	9.7	8.9	7.4
Derr	3/29	27	10.4	7.7	9.5
East Fork Canyon ^e	b		-	-	9.6 ^m
Gold Center	3/29	50	19.6	15.9	12.2
Indian Creek Butte ^e	b			29.3	23.6 ^m
Izee Summit	3/29	24	8.0	8.2	7.5
Lucky Strike	3/30	39	12.4	13.4	13.6 ^h
Marks Creek	3/26	3	0.9	0.0	1.7
Ochoco Meadows	3/30	31	10.7	7.5	9.3
Olive Lake ^e	3/31	69	25.5	25.5	20.7
Schoolmarm	3/30	6	1.6	1.5	4.2
Snow Mountain	3/25	48	14.7	14.4	12.9
Starr Ridge	3/29	19	6.2	5.4	4.1
Tipton	3/30	37	13.7	12.1	9.6
Tipton Snow Pillow	3/30		18.8	-	-
Williams Ranch	3/29	0	0.0	0.0	-

UPPER DESCHUTES, CROOKED WATERSHEDS

Black Pine Spring	3/26	12	4.2	0.0	2.8
Caldwell Ranch	3/31	38	13.8	3.6	9.1
Cascade Summit	3/29	116	47.6	20.6	30.7
Chemult	3/31	37	13.2	2.6	8.5
Deer Creek	3/31	70	26.4	13.3	-
Derr	3/29	27	10.4	7.7	9.5
Hogg Pass	3/31	153	61.9	32.0	43.4
Hungry Flat	3/30	22	8.2	0.0	3.1
Irish-Taylor	3/31	139	52.6	30.6	38.4
Irish-Taylor Pillow	3/31		51.3	31.5	-
Marks Creek	3/26	3	0.9	0.0	1.7
Mowich	3/30	21	7.3	0.8	2.6 ^h
New Crescent Lake	3/29	55	22.8	12.4	14.5
New Dutchman Flat #2	3/30	164	73.3	43.9	51.9
Ochoco Meadows	3/30	31	10.7	7.5	9.3
Snow Mountain	3/25	48	14.7	14.4	12.9
Snow Mountain Pillow ⁸	3/25		16.4	-	-
Tamarack	3/31	12	4.5	2.2	4.1 ^h
Tangent	3/30	82	33.8	17.9	22.0
Three Creek Butte	3/26	47	16.9	4.4	9.6 ^h
Three Creek Meadow	3/26	79	27.5	15.5	19.0
Three Creek Mdw. Pillow	3/26		33.8	20.5	-
Waldo Lake	3/30	121	44.7	21.9	32.4
Willamette Pass	3/29	156	60.4	32.7	41.6
Willamette Pass Pillow	3/29		58.0	-	-

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave.

HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS					
Brooks Meadow	3/23	52	18.2	7.9	11.4 ^h
Clear Lake	3/24	48	17.6	5.9	10.6
Clear Lake (Experimanetal)	3/24	68	26.9	11.4	19.2 ^h
Cooper Spur	3/31	50	18.6	5.6	-
Cooper Spur (Alternate)	3/31	62	23.0	12.7	-
Greenpoint Reservoir	4/1	83	28.3	16.9	17.5
Knebal Springs	3/23	33	12.0	5.0	7.4 ^h
Parkdale	3/31	T	T	-	-
Phlox Point	4/1	209	97.9	52.8	62.5
Red Hill	3/30	156	64.3	33.8	43.7
Still Creek	3/24	100	41.5	17.3	25.0
Still Creek (Alt. #2)	3/24	99	41.8	-	-
Switchback	3/31	72	29.0	11.3	-
Tilly Jane	4/4	149	62.2	35.8	45.3
Ulrich Ranch Junction	3/23	12	4.3	1.0	3.2 ^h
Umbrella Falls	3/29	238	103.5	59.9	-
Upper Valley	3/30	21	6.3	-	-

WILLAMETTE WATERSHEDS

Cascade Summit	3/29	116	47.6	20.6	30.7
Champion	4/1	121	50.5	14.7	30.2
Clackamas Lake	3/30	58	23.7	6.3	12.4
Clear Lake	3/24	48	17.6	5.9	10.6
Clear Lake (Experimental)	3/24	68	26.9	11.4	19.2 ^h
Dead Horse Grade	3/31	68	26.5	2.3	19.8
Detroit (Town)	3/31	0	0.0	0.0	0.0
Detroit Dam	3/31	0	0.0	0.0	0.0
Golden Curry Creek	4/1	18	5.9	0.0	4.1 ^h
Hogg Pass	3/31	153	61.9	32.0	43.4
Lake Harriet	b			0.0	0.1 ^m
Laurel Mountain	3/31	31	10.2	0.0	-
Layng Creek	4/1	0	0.0	0.0	0.0
Lost Creek Ranch	3/31	25	9.5	0.0	1.4
Lund Park	4/1	0	0.0	0.0	0.0
Marion Forks	3/31	73	29.0	0.0	13.4 ^h
Marys Peak	3/31	68	29.0	0.0	14.2 ^m
Marys Peak (Alternate)	3/31	51	24.4	0.0	-
McCredie Springs	3/29	0	0.0	0.0	0.0
McKenzie	3/31	148	64.7	31.2	45.3
McKenzie Bridge	3/31	0	0.0	0.0	0.0
Meridian Dam	3/29	0	0.0	0.0	0.0
Mill City	3/31	0	0.0	0.0	0.0
Oakridge	3/29	0	0.0	0.0	0.0
Peavine Ridge	4/1	74	31.0	8.6	19.5
Peavine Ridge Pillow	4/1		27.0	-	-
Phlox Point	4/1	209	97.9	52.8	62.5
Railroad Overpass	3/29	0	0.0	0.0	1.3
Salt Creek Falls	3/29	74	28.7	2.5	17.4
Santiam Junction	3/31	101	41.5	6.7	24.3
Still Creek	3/24	100	41.5	17.3	25.0
Still Creek Alternate #2	3/24	99	41.8	-	-
Timothy Lake	b			-	13.2 ^m
Valsetz Summit	4/1	18	6.6	0.0	-
Vida	3/31	0	0.0	0.0	0.0
Waldo Lake	3/30	121	44.7	21.9	32.4
Weaver Creek	4/1	0	0.0	0.0	0.6
White Branch Slide	3/31	45	16.4	0.0	4.9
Whitewater Bridge	3/31	37	15.0	0.0	1.8
Willamette Pass	3/29	156	60.4	32.7	41.6
Willamette Pass Pillow	3/29		58.0	-	-

BASIC DATA SUPPLEMENT 1

APRIL 1, 1971

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave.
ROGUE, UMPQUA WATERSHEDS					
Althouse	3/30	29	11.2	0.0	7.2
Althouse #2	3/30	32	12.6	0.0	-
Annie Spring	4/1	167	69.5	43.1	45.6
Beaver Dam Creek	3/30	57	22.2	T	12.4
Big Red Mountain	3/29	101	40.3	29.7	30.9
Billie Creek Divide	3/30	80	30.7	11.5	21.1
Caliban	3/29	118	41.7	34.3	-
Champion	4/1	121	50.5	14.7	30.2
Cold Springs Camp	3/30	133	51.7	28.6	33.6
Cold Springs Camp Pillow	3/30		43.4	-	-
Deadwood Junction	3/30	36	14.4	0.0	8.7
Diamond-Crater Summit	3/29	137	53.6	28.2	37.7
Diamond-Crater Sum. Alt.	3/29	121	45.3	25.7	-
Diamond Lake	3/29	79	31.0	16.6	22.8
Fish Lake	3/30	63	23.4	T	12.8
Fourmile Lake	3/30	86	39.8	21.0	25.2
Grayback Peak	3/26	83	28.3	14.3	29.2
Howard Prairie	3/30	33	12.7	0.0	7.6
Hyatt Prairie	3/30	33	13.3	0.0	7.2
King Mountain #1	3/29	41	18.0	T	-
King Mountain #2	3/29	34	14.3	T	-
King Mountain #3	3/29	0	0.0	0.0	-
King Mountain #4	3/29	0	0.0	0.0	-
King Mountain #5	3/29	0	0.0	0.0	-
King Mountain #6	3/29	0	0.0	0.0	-
Little Red Mountain	3/29	73	28.7	22.1	25.3
Mt. Ashland Switchback	3/29	128	46.8	34.5	-
Mule Creek	3/30	37	14.3	0.0	-
North Umpqua	3/29	52	24.1	2.3	13.6
Page Mountain	3/30	8	2.8	0.0	4.3
Park Headquarters	4/1	202	85.4	60.5	58.6
Red Butte #1	3/26	66	25.8	0.0	16.2
Red Butte #2	3/26	36	13.8	0.0	9.3
Red Butte #3	3/26	21	8.4	0.0	7.5
Red Butte #4	3/26	3	1.2	0.0	3.4
Red Butte #5	3/26	0	0.0	0.0	0.0
Red Butte #6	3/26	0	0.0	0.0	0.0
Seven Lake #2	3/25	127	47.2	34.7	42.3
Seven Mile	3/24	104	38.7	28.6	-
Silver Burn	3/28	57	21.5	0.0	12.0
Siskiyou Summit	3/29	29	12.0	0.0	2.5
Siskiyou Summit Alt. #2	3/29	24	10.2	0.0	-
Ski Bowl Road	3/30	108	40.7	24.8	-
South Fork Canal	3/30	12	5.0	0.0	0.4
Trap Creek	3/29	45	19.0	0.0	10.5
Whaleback	3/31	123	49.3	21.6	34.1

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. 2 Yrs.
KLAMATH WATERSHEDS					
Annie Spring	4/1	167	69.5	43.1	45.6
Beatty (PP&L)	b			-	0.0 ^m
Billie Creek Divide	3/30	80	30.7	11.5	21.1
Bly Mountain	3/31	22	7.8	0.6	4.9 ^h
Bly 101 Ranch (PP&L)	b			-	0.2 ^m
Chemult	3/31	37	13.2	2.6	8.5
Chiloquin (PP&L)	b			-	T
Cold Springs Camp	3/30	133	51.7	28.6	33.6 ^h
Cold Springs Camp Pillow	3/30		43.4	-	-
Crazyman Flat ^e	3/29	36	12.2	6.3	10.5 ^m
Crowder Flat (Calif.)	3/29	4	1.2	0.0	1.4 ^m
Crystal (PP&L)	3/30	29	15.0	0.0	5.4
Diamond-Crater Summit	3/29	137	53.6	28.2	37.7 ^h
Diamond-Crater Sum. Alt.	3/21	121	45.3	25.7	-
Diamond Lake Jct. (97)	3/29	25	9.8	0.0	4.8 ^h
Dog Hollow ^e	4/1	0	0.0	0.0	0.4 ^m
Finley Corrals ^e	3/29	60	20.4	15.6	15.9 ^m
Fort Klamath (PP&L)	3/29	9	2.9	0.0	0.7
Fourmile Lake	3/30	86	39.8	21.0	25.2 ^h
Gerber	4/1	0	0.0	0.0	0.7 ^h
Harriman (PP&L)	3/31	15	5.2	0.0	0.9 ^m
Hyatt Prairie Reservoir	3/30	33	13.3	0.0	7.2 ^h
Kirk (PP&L)	3/29	24	9.2	-	2.0 ^m
Lake of the Woods	3/28	34	12.2	2.4	10.7
Park Headquarters	4/1	203	85.4	60.5	58.6
Pelican Guard Station	3/30	6	2.2	0.0	0.8 ^m
Quartz Mountain	4/1	22	8.4	0.0	4.9
Quartz Mountain (Extension)	4/1	23	8.0	0.0	-
Seven Lake #2	3/25	127	47.2	34.7	42.3
Seven Mile	3/24	104	38.7	28.6	-
State Line ^e (Calif.)	3/29	26	8.8	1.2	8.3 ^m
Strawberry	3/31	27	9.2	3.6	6.0 ^h
Summer Rim	3/29	61	21.1	18.1	18.0
Summer Rim Snow Pillow	3/29		26.2	-	-
Sun Mountain	3/29	80	30.9	19.5	24.8
Sycan Flat ^e	3/29	25	8.5	0.0	5.3 ^m
Taylor Butte ^e	3/31	20	6.5	T	3.5 ^h
LAKE COUNTY, GOOSE LAKE WATERSHEDS					
Adin Mountain (Calif.)	4/1	47	18.1	10.9	11.5
Bald Mountain (Nev.)	3/26	5	1.4	0.6	2.5
Bear Flat Meadow ^e	3/29	35	11.9	9.2	10.9 ^m
Camas Creek	3/31	38	12.5	4.2	9.7
Cedar Pass (Calif.)	4/4	54	21.2	14.2	15.0
Colvin Creek ^e	3/31	15	4.8	0.0	-
Cox Flat ^e	3/29	22	7.5	0.0	6.7 ^m
Crowder Flat ^e (Calif.)	3/29	4	1.2	0.0	1.4 ^m
Bismal Swamp ^e (Calif.)	4/1	58	23.2	18.4	17.6 ^m
Finley Corrals ^e	3/29	60	20.4	15.6	15.9 ^m
Hart Mountain ^e	3/31	5	1.5	0.0	0.9 ^m
Little Bally Mtn. ^e (Nev.)	4/1	6	1.8	0.0	1.5 ^m
Mt. Bidwell (Calif.)	3/30	85	34.3	25.0	-
North Star (Calif.)	b			13.6	-
Patton Meadows ^e	3/29	68	23.1	20.5	14.5 ^m
Quartz Mountain	4/1	22	8.4	0.0	4.9
Quartz Mountain (Ext.)	4/1	23	8.0	0.0	-
Sherman Valley ^e	3/31	45	15.3	10.4	11.6 ^m
Silver Creek	3/29	7	3.0	0.0	1.2
State Line ^e (Calif.)	3/29	26	8.8	1.2	8.3 ^m
Strawberry	3/31	27	9.2	3.6	6.0 ^h
Summer Rim	3/29	61	21.1	18.1	18.0
Summer Rim Snow Pillow	3/29		26.2	-	-
Sycan Flat ^e	3/29	25	8.5	0.0	5.3 ^m
Willow Creek ^e	4/1	10	3.0	0.0	3.2 ^m

BASIC DATA SUPPLEMENT 1

APRIL 1, 1971

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave.

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave.

HARNEY BASIN WATERSHEDS

Blue Mountain Springs	3/26	63	20.9	21.2	15.5
Blue Mtn. Springs Pillow	3/26		10.9	-	-
Buck Pasture ^e	3/30	T	T	0.0	2.2 ^m
Buckskin Lake ^e	3/30	0	0.0	0.0	0.0 ^m
Call Meadows ^e	3/30	12	4.1	3.0	3.0 ^m
Crow Camp ^e	DISCONTINUED			0.0	0.8 ^m
Delintment Lake	3/25	24	7.0	6.6	6.8 ^h
Denio Creek ^e	3/30	0	0.0	0.0	0.0 ^m
Disaster Peak (Nev.)	3/26	30	11.5	10.5	9.5 ⁱ
Emigrant Butte	3/25	0	0.0	0.0	1.8 ^h
Fish Creek	3/30	88	33.1	29.2	25.0 ⁱ
Hart Mountain ^e	3/31	5	1.5	0.0	0.9 ^m
Idlewild Camp	3/30	14	5.2	2.9	4.2
Izee Summit	3/29	24	8.0	8.2	7.5 ⁱ
Lake Creek R. S.	3/26	38	12.8	14.0	9.3 ⁱ
Oregon Canyon ^e	3/30	2	0.6	4.0	4.4 ^m
Rock Spring	3/30	22	7.2	4.4	4.3
Silvies	3/30	38	15.4	12.8	12.3
Snow Mountain	3/25	48	14.7	14.4	12.9
Snow Mountain Pillow	3/25		16.4	-	-
Starr Ridge	3/29	19	6.2	5.4	4.1
Stinking Water	3/29	0	0.0	0.0	0.3 ^h
Trout Creek ^e	3/30	10	3.4	8.0	7.9 ^m
"V" Lake ^e	3/30	21	6.3	4.8	3.8 ^m

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

BASIC DATA SUPPLEMENT 2

APRIL 1, 1971

SOIL MOISTURE

DRAINAGE BASIN and/or STATION		Profile (Inches)		Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity		This Year	Last Year	Average ^m
OWYHEE, MALHEUR WATERSHEDS							
Bear Creek (Nev.)	7800	72	16.8	3/28	10.8	11.5	11.6
Big Bend (Nev.)	6700	48	16.7	3/24	16.7	- -	15.9
Blue Mountain Spring	5900	42	16.9	3/26	12.0	11.5	11.2
Crane Prairie	5375	48	18.2	3/26	18.0	15.6	16.3
Folly Farm	4450	30	12.5	b		- -	- -
Jack Creek, Lower (Nev.)	6800	48	8.6	b		- -	- -
Jordan Valley	4390	48	19.3	3/29	16.6	14.9 ^f	- -
Mud Flat (Ida.)	5500	48	12.8	3/29	14.4	14.4 ^f	13.2
Rodeo Flat (Nev.)	6800	42	11.0	3/24	5.7	- -	- -
Taylor Canyon (Nev.)	6200	48	15.1	3/29	15.1	12.7 ^f	13.8
Triangle (Ida.)	5150	48	16.6	b		- -	- -
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS							
Blue Mountain Summit	5100	36	16.8	3/29	14.7	12.9	11.5
Dooley Mountain	5430	36	9.2	3/26	6.3	4.8	4.5
Emigrant Springs	3925	48	22.3	3/29	22.1	22.2	20.2
Ladd Summit	3730	48	18.9	3/29	14.0	13.3	11.1
Moss Springs	5850	36	25.8	4/1	16.0	14.6	- -
Tollgate	5070	48	23.6	3/29	16.4	16.8	19.5
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS							
Battle Mountain Summit	4340	48	13.8	3/29	13.8	13.7	13.3
Emigrant Springs	3925	48	22.3	3/29	22.1	22.2	20.2
Tollgate	5070	48	23.6	3/29	16.4	16.8	19.5
UPPER JOHN DAY WATERSHEDS							
Battle Mountain Summit	4340	48	13.8	3/29	13.8	13.7	13.3
Beech Creek	4800	48	21.3	3/29	17.6	17.5	14.4
Blue Mountain Spring	5900	42	16.9	3/26	12.0	11.5	11.2
Blue Mountain Summit	5100	36	16.8	3/30	14.7	12.9	11.5
Derr	5670	24	9.0	3/29	8.2	8.6	- -
Marks Creek	4540	36	14.1	3/29	8.2	12.3	12.6
Snow Mountain	6300	48	16.7	3/26	14.5	13.6	14.2
Starr Ridge	5150	36	10.6	3/29	10.6	10.6	10.0
Williams Ranch	4500	42	17.9	3/29	17.9	17.8	17.2
UPPER DESCHUTES, CROOKED WATERSHEDS							
Derr	5670	24	9.0	3/29	8.2	8.6	- -
Marks Creek	4540	36	14.1	3/26	13.8	12.3	12.6
Snow Mountain	6300	48	16.7	3/26	14.5	13.6	14.2
HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS							
Cooper Spur	3490	72	26.4	3/31	14.4	14.9	- -
KLAMATH WATERSHEDS							
Bly Mountain	5090	42	14.0	3/31	12.7	12.5	11.9

BASIC DATA SUPPLEMENT 2

APRIL 1, 1971

SOIL MOISTURE

DRAINAGE BASIN and/or STATION		Profile (Inches)		Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity		This Year	Last Year	Average ^m
LAKE COUNTY, GOOSE LAKE WATERSHEDS							
Camas Creek	5720	42	14.5	3/31	13.5	13.7	12.5
Quartz Mountain	5230	48	15.3	4/1	10.1	10.4	8.8
HARNEY BASIN WATERSHEDS							
Blue Mountain Spring	5900	42	16.9	3/26	12.0	11.5	11.2
Fish Creek	7900	48	15.0	3/30	12.0	13.1	- -
Folly Farm	4450	30	12.5	<u>b</u>		- -	- -
Silvies	6900	48	16.4	3/30	16.2	13.7	13.1
Snow Mountain	6300	48	16.7	3/26	14.5	13.6	14.2
Starr Ridge	5150	36	10.6	3/29	10.6	10.6	10.0
Willow-Bald	5000	24	6.6	3/25	6.6	6.4	5.6

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

BASIC DATA SUPPLEMENT 3

APRIL 1, 1971

PRECIPITATION (Inches)

PRECIPITATION (Inches)		CURRENT INFORMATION		PAST RECORD	
DRAINAGE BASIN and PRECIPITATION GAGE LOCATION	ELEVATION	Date of Reading	Precipitation	Last Year	Average
Allison Work Center (Harney County)	5320	2/26 to 3/29	3.25		
Arbuckle Mountain (Morrow County)	5400	2/26 to 3/29	4.73		
Camas Creek (Lake County)	5825	2/26 to 3/31	7.35		
County Line (Umatilla County - Starkey Hdqrs.)	4800	2/26 to 3/30	1.10		
Fish Lake (Jackson County)	4865	2/25 to 3/30	2.07		
Quartz Mountain Summit (Lake County)	5530	2/25 to 4/1	6.04		
Strawberry (Lake County)	5760	2/25 to 3/31	5.85		
Summer Rim (Lake County)	7200	2/26 to 3/29	5.30		
Taylor Green (Union County)	5800	2/27 to 4/1	4.80		

The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE

- Idaho Cooperative Snow Surveys
- Nevada Cooperative Snow Surveys
- Oregon State University
- Oregon State Engineer and Corps of State Watermasters
- Oregon State Highway Engineers
- Soil and Water Conservation Districts of Oregon

COUNTY

- Douglas County Water Resources Survey

FEDERAL

- Department of Agriculture
 - Cooperative Extension Service
 - Forest Service
 - Soil Conservation Service
- Department of Commerce
 - Weather Bureau
- Department of the Interior
 - Bonneville Power Administration
 - Bureau of Land Management
 - Bureau of Reclamation
 - Fish and Wildlife Service
 - Geological Survey
 - National Park Service
- Department of National Defense
 - Corps of Army Engineers

PUBLIC UTILITIES

- Pacific Power and Light Company
- Portland General Electric Company
- California-Pacific Utilities Company

MUNICIPALITIES

- City of Baker
- City of La Grande
- City of The Dalles
- City of Walla Walla

IRRIGATION DISTRICTS

- Arnold Irrigation District
- Associated Ditch Companies
- Burnt River Irrigation District
- Central Oregon Irrigation District
- East Fork Irrigation District
- Grants Pass Irrigation District
- Hood River Irrigation District
- Jordan Valley Irrigation District
- Juniper Flat Irrigation District
- Lakeview Water Users, Incorporated
- Medford Irrigation District
- Middle Fork Irrigation District
- North Board of Control - Owyhee Project
- North Unit Irrigation District
- Ochoco Irrigation District
- Rogue River Valley Irrigation District
- South Board of Control - Owyhee Project
- Squaw Creek Irrigation District
- Talent Irrigation District
- Tumalo Project
- Vale-Oregon Irrigation District
- Warm Springs Irrigation District

PRIVATE ORGANIZATIONS

- The Crag Rats, Hood River, Oregon

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